

REMARKS

Claims 2, 4, 5, 7, and 14-19 are pending in this application. Claims 2, 4, and 15 are amended, and claims 20-23 are added herein. No new matter is added.

Claims 2, 4, 15, and 17 are independent.

Claims 2, 14-17 and 19 stand rejected under 35 U.S.C. §102(b), as anticipated by Matsuzaki (JP-03255637 A – hereafter referred to as JP). Claims 4-5, 7, and 18 stand rejected under 35 U.S.C. §103(a), as being obvious over Kenji et al. in view of JP. To the extent not addressed below, the rejections are respectfully traversed.

The JP reference describes a solder for die bonding that requires antimony, silver, copper, and one or both of tin and lead (see abstract). The antimony is an “essential” component of JP’s solder (see page 3, left column, lines 11-12). Hence, JP’s solder must contain antimony. The Kenji reference discloses a connection lead that includes a conductor strip and a plating formed of a lead-free solder including mainly tin.

The present application does not disclose the use of antimony. The specification includes multiple examples, each lacking antimony. Table 2 (found on page 17) and table 3 (found on page 19) include exemplary tin/silver/copper/phosphorus compositions, tin/copper/phosphorus compositions, tin/silver/copper/phosphorus/bismuth compositions, and tin/copper/phosphorus/bismuth compositions. Furthermore, nowhere in the present application is antimony even mentioned.

Independent claims 2, 4, and 15 have been amended herein to require that antimony not be intentionally included. Thus, as amended, independent claims 2, 4, and 15, as well as their dependencies, claims 14, 16, and 19, are clearly distinguishable from the teachings of the JP reference, which require the intentional addition of antimony. And as should be understood from the above, amended claims 2, 4, and 15 are also distinguishable from a combination of Kenji and JP.

Independent claim 17 recites an alloy composition consisting essentially of phosphorus, silver, copper, and tin. Hence, the alloy composition of claim 17 does not include antimony. Thus, independent claim 17 is novel and unobvious in view of the

applied art, as the JP reference requires antimony.

Accordingly, in view of the above, it is respectfully requested that the Examiner reconsider and withdraw the rejections of claims 2, 4, 5, 7, and 14-19.

New claims 20-23 are added herein to further distinguish from the applied art. In particular, claims 20-22 each recite an exclusion of antimony from the compositions of claim 2 and 15, and the plating of claim 4. Claim 23 recites antimony not intentionally being added to the alloy composition of claim 17.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed local telephone number, in order to expedite resolution of any remaining issues and further to expedite passage of the application to issue, if any further comments, questions or suggestions arise in connection with the application.

To the extent necessary, Applicants petition for an extension of time under 37 CFR § 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account No. 01-2135 (Case No. 521.41457X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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